

This test seemed to prove that those ferns which are apparently most tender and are the first to succumb to early fall frosts, will while in their young state resist hard freezing. But those hardy *Polystichums* and *Dryopteris* which remain green through the winter are very tender in their early stage of development.—E. W. GRAVES, *Bentonsport, Iowa*.

A REPORT OF THE IOWA BOTRYCHIUMS.—In 1927 I reported through the *FERN JOURNAL* finding a colony of thirty-one plants of *Botrychium dissectum* also a colony of forty-eight *B. obliquum* about two miles apart.

During the summer and fall of this past year I have explored many of the wooded creek-bottom lands, hoping I might locate other colonies. Although I have spent considerable time searching the surrounding country for miles, I have been unsuccessful in finding any more plants. It seems very queer that I should find a good-sized colony of both ferns within a month's time, and since have spent days carefully exploring similar places, yet failed to reveal a single plant. It indicates to me that the *Botrychiums* are rare in Van Buren County.

I have kept a close tab on the two colonies the past year, and I find *B. dissectum* has made an increase in numbers while *B. obliquum* has decreased. August 20th I counted forty-five plants of *B. dissectum*, an increase of fourteen over the year before. Twenty-three of the plants were large enough to show plainly they belonged to the *B. dissectum* group. The remaining twenty-two were small plants. Perhaps a dozen or more had come from spores this year, as one plant had produced a fruiting spike and had cast its spores the fall before.

The plants in the colony of *B. obliquum* were counted August 20th and I could find only thirty-one plants, or seventeen plants less than last year. As I had dug up

five the year before that left only a loss of twelve plants, due perhaps to cattle walking over them. There were no plants in either colony that produced fertile spikes this year, and why I cannot tell, as the spring was exceptionally wet even as late as the last of May. All the plants in the colony of *B. obliquum* were true *obliquum*, no *dissectum* were found among them.—E. W. GRAVES, *Bentonsport, Iowa.*

RABBITS EAT EQUISETUM PRAEALTUM.—In March, I frequently visited the large patch of *E. praealtum* Raf. which grows in a ravine north of Columbus, Ohio. A number of rabbits make their home in this patch which covers a number of acres of ground and is criss-crossed by their well-beaten runways. These paths were in some places actually carpeted with Equisetum shoots which had been bitten off from the sides of the galleries. At various places, masses of refuse, consisting of one or more internodes but commonly of short pieces containing the dry sheath and the node, were seen. Usually at these places there were also abundant rabbit droppings. Although I did not see the rabbits eating the scouring-rushes, there is no doubt whatever that the main food, and perhaps the only thing in the daily menu at this time of the year, is Equisetum stems for all the rabbits living in the patch. Some of the rabbit droppings were examined under the compound microscope and were found, apparently, to consist entirely of small flakes and chips of the silicious epidermal cell walls, and pieces of vascular bundles of the *Equisetum praealtum*. The silicious walls were too much for the digestive ability of the rabbits and had passed through unchanged, so that all the epidermal characteristics of stomata, tubercles, and ridges were in perfect condition, although the food elements had probably been mostly extracted from the